**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA**

STATE OF OKLAHOMA, *et al.*   )
)
                    Plaintiffs,   )
)
v.   )   Case No. 4:05-cv-00329-GKF-PJC
)
TYSON FOODS, INC., *et al.*   )
)
                    Defendants.   )

**DEFENDANTS' RESPONSE IN OPPOSITION TO PLAINTIFFS' MOTIONS IN
LIMINE PERTAINING TO ALTERNATE SOURCES OF PHOSPHORUS AND
BACTERIA TO THE IRW [Dkt. No. 2436] AND BACTERIAL OR PHOSPHORUS
LEVELS IN OTHER WATERSHEDS [Dkt. No. 2411]**

EXHIBIT 2
Transcript of July 29, 2009 Hearing

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 1                  IN THE UNITED STATES DISTRICT COURT

 2               FOR THE NORTHERN DISTRICT OF OKLAHOMA

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 4   STATE OF OKLAHOMA, ex rel,   )
     W.A. DREW EDMONDSON, in his  )
 5   capacity as ATTORNEY GENERAL )
     OF THE STATE OF OKLAHOMA,    )
 6   et al.                       )
                                  )
 7               Plaintiffs,      )
                                  )
 8   vs.                          )        CASE NO. 05-CV-329-GKF-PJC
                                  )
 9                                )
     TYSON FOODS, INC., et al.,   )
10                                )
                                  )
11               Defendants.      )

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                    TRANSCRIPT OF PROCEEDINGS
15                        JULY 29, 2009
       BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16                    MOTION HEARING, VOLUME II

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     APPEARANCES:
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     For the Plaintiffs:            MR. DAVID RIGGS
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 1            Number 4.  Dr. Olsen's approach does not account for
 2   alternative sources of most of the constituents in his PCA.
 3            Number 5.  The published literature states that --
 4   and before I do this, let me find out, did the -- do the
 5   defendants contend that the software package actually now
 6   replaces the missing values with a mean, Mr. Todd?
 7            MR. TODD:  Your Honor, it's our understanding that
 8   Dr. Olsen works -- we accept the representation by plaintiffs
 9   that he used the pairwise deletion function.  Because of the
10   manner in which Dr. Olsen had treated the data, he had done
11   something called a Z transformation, which basically wraps the
12   data around zero.  So the mean was zero.  So it was a
13   mathematical equivalent.  Running the pairwise was the
14   mathematical equivalent of replacing everything with a mean.
15   So we're happy to accept their representation.
16            THE COURT:  Does that eliminate your objection?
17            MR. TODD:  No, it doesn't, Your Honor, because our
18   objection was to the effect of having missing data.
19            THE COURT:  That's what I understood.
20            So Number 5.  The published literature states that
21   when a software package replaces missing values with means of
22   the variables, this can bias statistical analysis if these
23   values represent a significant number of the data being
24   analyzed.  Here, the replaced data represent a significant
25   number of the data analyzed; thus, rendering the data
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